## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claim 1 (original): A phosphor fluoride particle that emits light in the visible wavelength range when excited by long wavelength light that has a uniform particle size of less than 350 nanometers.

Claim 2 (original): The phosphor fluoride particle of claim 1, comprising a phosphor host and an absorber-emitter pair.

Claim 3 (original): The phosphor fluoride particle of claim 2, wherein the phosphor host is selected from the group consisting of yttrium, lanthanum and gadolinium.

Claim 4 (original): The phosphor fluoride particle of claim 2, wherein the absorber is ytterbium and the emitter is selected from the group consisting of erbium, holmium, terbium and thulium.

Claim 5 (original): The phosphor fluoride particle of claim 1, wherein the particle has a molar ratio:

(yttrium, lanthanum or gadolinium):ytterbium:(erbium, holmium, terbium or thulium) = (70-90):(0-29):(0.00l-15).

Claim 6 (original): The phosphor fluoride particle of claim 1, which has a formula of $YF_3$:Yb,Er.

Claim 7 (original): The phosphor fluoride particle of claim 1, which has a formula of $NaYF_4$:Yb,Er.

Claim 8 (original): The phosphor fluoride particle of claim 1, which has a particle size ranging from about 35 nanometers to about 200 nanometers.

Claim 9 (original): The phosphor fluoride particle of claim 1, further comprising a transparent coating layer.

Claim 10 (original): The phosphor fluoride particle of claim 9, wherein the transparent coating layer is $SiO_2$.

Claim 11 (original): The phosphor fluoride particle of claim 9, wherein the coated particle further comprises a layer of immobilized biological moiety.

Claim 12 (original): A process of preparing a phosphor fluoride particle that emits light in the visible wavelength range when excited by long wavelength light that has a uniform particle size of less than 350 nanometers, which process comprises:

a) preparing an aqueous solution of soluble salts of a phosphor host, an absorber/emitter pair and a rare-earth metal chelator; and

b) contacting said prepared aqueous solution of soluble salts of said phosphor host, absorber/emitter pair and rare-earth metal chelator with an aqueous fluoride-containing compound at a temperature ranging from about 0°C to about 100°C for a sufficient time to obtain a precipitate of a phosphor fluoride particle; and

c) heating said precipitate at a temperature ranging from about 300°C to about 450°C for a time ranging from about 1 hour to about 10 hours to obtain a phosphor fluoride particle that emits light in the visible wavelength range when excited by long wavelength light that has a uniform particle size of less than 350 nanometers.

Claim 13 (original): The process of claim 12, wherein the phosphor host is selected from the group consisting of yttrium, lanthanum and gadolinium.

Claim 14 (original): The process of claim 12, wherein the absorber is ytterbium and the emitter is selected from the group consisting of erbium, holmium, terbium and thulium.

Claim 15 (original): The process of claim 12, wherein the rare-earth metal chelator is selected from the group consisting of ethylenediamineteraacetic acid, triethylenetetraaminhexaacetic acid, diethylenetriaminepentaacestic acid, hydroxyethylethylenediaminetriacetic acid, 1,2-

diaminocyclohexanetetraacetic acid, ethylene glycol bis (b-aminoethylether) tetraacetic acid and a salt thereof.

Claim 16 (original): The process of claim 12, wherein the aqueous fluoride-containing compound is selected from the group consisting of NaF, KF, $NH_4F$ and HF.

Claim 17 (original): The process of claim 12, wherein the aqueous fluoride-containing compound is contained in an aqueous solution prior to or concurrently with contacting with the prepared aqueous solution of soluble salts of the phosphor host, the absorber/emitter pair and the rare-earth metal chelator.

Claim 18 (original): The process of claim 12, wherein the soluble salts of the phosphor host and the absorber/emitter pair are obtained by dissolving the corresponding metal oxide in hydrochloric acid or nitric acid and subsequently removing the residual acid.

Claim 19 (original): The process of claim 12, wherein the amount of the rare-earth metal chelator is about 0-1 times the amount of total rare-earth ions in the aqueous solution.

Claim 20 (original): The process of claim 12, further comprising coating the prepared phosphor fluoride particle with a transparent layer.

Claim 21 (original): The process of claim 20, wherein the transparent layer is $SiO_2$.

Claim 22 (original): The process of claim 20, further comprising coating the transparent layer coated phosphor fluoride particle with a layer of immobilized biological moiety.

Claims 23-27 (canceled)

Claim 28 (new): The phosphor fluoride particle of claim 1, wherein the particles have a standard deviation of particle sizes that equals to or is less than 20%.

Claim 29 (new): The phosphor fluoride particle of claim 28, wherein the particles have a standard deviation of particle sizes that equals to or is less than 10%.

Claim 30 (new): The phosphor fluoride particle of claim 29, wherein the particles have a standard deviation of particle sizes that equals to or is less than 5%.

Claim 31 (new): The phosphor fluoride particle of claim 8, wherein the particles have a particle size ranging from about 37 nanometers to about 166 nanometers.

Claim 32 (new): The phosphor fluoride particle of claim 31, wherein the particles have a standard deviation of particle sizes that equals to or is less than 5%.